

**Claims**

1. A plurality of sufficient closely-packed functional units interconnected to form a non-planar payload module.
- 5 2. A non-planar payload module comprising:  
a supporting structure for supporting the payload equipment; and  
a receiving volume for receiving the payload equipment, said volume being defined by the requirement to accommodate a predetermined sufficient closely-packed formation of interconnected functional units.
- 10 3. A non-planar payload module comprising:  
a supporting structure for mechanically supporting a number of interconnected functional units;  
said number of functional units being arranged to provide a sufficient closely-packed modular formation occupying a predetermined volume of  
15 the module;  
a number of thermal radiators positioned remotely in relation to the position of the supporting structure; and  
means operable to define a thermal pathway between one or more dissipative elements of said module and said number of thermal radiators  
20 so that in use dissipated heat is transported from said one or more elements to said number of thermal radiators via the thermal pathway.
4. A module as claimed in claim 1 or claim 2 or claim 3 comprising a faceted tubular body for receiving the units.
5. A module as claimed in claim 4 wherein the faceted body has an  
25 irregular structure.
6. A module as claimed in claim 4 or claim 5 including feed means for converting electrons into photons or vice versa.

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7. A module as claimed in claim 4 or claim 5 or claim 6 wherein the functional units are mounted at different predetermined locations on a plurality of inner faces of the faceted body and the associated feed locations are mounted in proximate relationship to the functional units at different predetermined locations on corresponding external faces of the faceted body.
8. A module as claimed in claim 4 or claim 5 or claim 6 wherein the functional units are mounted at different predetermined locations on a plurality of external faces of the faceted body and the associated feed locations are mounted in proximate relationship to the functional units at different predetermined locations on corresponding inner faces of the faceted body.
9. A module as claimed in any of claims 4 to 8 wherein there are eight functional units arrayed in an octagon around an opening defined by the faceted body.
10. A module as claimed in claim 1 or claim 2 or claim 3 comprising a rack-mounting chassis.
11. A module as claimed in claim 10 wherein a receiving volume space is defined by the chassis to accommodate a linear array of functional units, each of the units being slidably mounted on the chassis when in use.
12. A module as claimed in any of the preceding claims including temperature compensation means.
13. A module as claimed in claim 12 wherein said temperature compensation means includes a number of heat pipes for gathering heat dissipated by the functional units and circuitry responsive to the output of dissipated heat for adjusting temperature differences in the module.
14. A spacecraft vehicle or satellite incorporating a module as claimed in any of the preceding claims.
15. A communications system for airborne use incorporating a module as claimed in any of the claims 1 to 13.

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16. A radar communications system incorporating a module as claimed in any of the claims 1 to 13.
17. An optical/quasi-optical system incorporating a module as claimed in any of the claims 1 to 13.
- 5 18. A module substantially as described herein with reference to Figures 5 to 11 of the accompanying drawings.
19. A self-contained payload module with external power means and external locating means for location of the module in a desired position.